Experimental Fishing Permit Application
2007 Aleutian Islands Cooperative Acoustic Survey Study

1. Application Date

August 30th 2006

2. Applicant

Aleut Enterprise Corporation
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3. Purpose and Goal

Background

Prior to passage of the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA), the Bering Sea/Aleutian Island (BSAI) Pollock (*Theragra chalcogramma*) fishery was prosecuted primarily by foreign fleets (Japan, USSR, and Korea). The MFCMA established the 200-mile Exclusive Economic Zone and gave management control of the BSAI Pollock fishery to the newly created the North Pacific Fishery Management Council (NPFMC). A BSAI Groundfish Fishery Management Plan (FMP) was developed by the NPFMC to provide a framework for developing specific regulations for the AI Pollock fishery (NPFMC 2005). Joint ventures (American catcher vessels delivering fish to foreign at-sea processors) operated during the 1980s, but were phased out by the domestic fleet by 1991. During the 1990's Aleutian Island Pollock harvests ranged from 23,822 mt in 1998 to 99,604 mt in 1991.

In 1990 Stellar sea lions (*Eumetopias jubatus*) were listed as "threatened" under the Endangered Species Act (ESA). Directed Pollock fishing in the Aleutian Islands was closed beginning in 1999, in part due to concerns about Steller sea lions. In 2001 the NMFS Office of Protected Resources and the Alaska Regional Office of NMFS worked through the Reasonable and Prudent Alternative (RPA) committee and the NPFMC to develop conservation measures which focused on the removal of spatial overlap between Stellar sea lions and the fisheries in order to relax some of the more financially disruptive aspects of the RPA from the BSAI FMP biological opinion (such as critical habitat catch limits). However, no allowance was made for pollock fishing inside critical habitat in the Aleutian Islands.

Under Steller sea lion mitigation measure adopted by the NPFMC in 2001, NMFS reopened pollock fishing restricted to those areas outside critical habitat (generally as 20 miles from rookeries and haulouts listed in table 4 of CFR 679.50) beginning in 2003. The June 2003 supplement to the 2001 biological opinion describes experiments on fisheries effects on prey availability for Steller sea lions (pg. 30 & 31) and the need for further studies to determine whether commercial fishing activities impact the prey availability of pollock to Steller sea lions (NMFS 2003).

Section 803(a-d) of PL 108-199 allocated the directed pollock fishery in the Aleutian Islands to the Aleut Corporation. The allocation was implemented under Amendment 82 to the BSAI FMP by the

NPFMC, and became effective in 2005. Until the regulations implementing the Aleut Corporation allocation were in effect in 2005, NPFMC recommended pollock Total Allowable Catches (TACs) that were insufficient to support a directed fishery. Beginning in 2005 the Aleutian Island pollock TAC was set at 19,400 metric tons, however directed pollock harvests in 2005 were less than 200 metric tons.

In February-April 2006 the Aleutian Islands Cooperative Acoustic Survey Study (AICASS) was conducted to assess the feasibility of using a small (< 35 m) commercial fishing vessel to estimate the abundance of pollock in waters off the central Aleutian Islands. The acoustic and biological information from the study were used to assess: 1) if it is feasible to conduct acoustic surveys in the Aleutian Islands using commercial fishing vessels, 2) if the data collected are of sufficient quality for management purposes, and 3) the extent that fine scale spatial and temporal management measures may be biologically reasonable. The project was envisioned as a first step in the development of a co-management/co-monitoring system that would involve the Aleut Corporation, local fishermen, and NMFS. The 2006 AICASS was highly successful. In addition to achieving its scientific objectives, this project fostered an excellent working relationship between NMFS, the Aleut Enterprise Corporation, and the fishing industry. Local participation and stakeholder involvement enhances NMFS ability to provide responsible stewardship of this important marine resource. Future work should consider the expansion of this technique to survey more areas within the Aleutian Islands to determine the health and behavioral dynamics of this stock within Steller sea lion critical habitat.

Goals

The primary objectives of this Exempted Fishing Permit (EFP) is to assess pollock abundance and temporal stability in the Central Aleutian Islands and secondarily to evaluate the feasibility of managing an Aleutian Islands pollock fishery at a finer temporal and spatial resolution using near real-time acoustic surveying. To accomplish these objectives two acoustic surveys with 2.5 nm spacing will be conducted, surveying the area between 173°W longitude to 179°W longitude on the north side of the Aleutian Island archipelago. Verification tows will be conducted during the surveys to determine the species composition and biological attributes of the observed acoustic sign. Verification tows will be limited to less than 10t and to no more than 30 tows per survey. All verification catch will be accounted for by either weighing at sea or volumetric assessment and discarded at sea. The study area will be divided into five one-degree pollock fishing areas. Between the two surveys commercial fishing vessels will be allowed to remove (AR) up to a maximum of $AR = \left[\sum \left(N_A W_{A+1}\right)\right]\left(\frac{A_{07}}{A_{06}}\right)(1-M)(0.75M)$ of groundfish from the survey area, removals are not to exceed 1000t from any two adjacent 1 degree longitude blocks. N_A is the numbers at age from the final 2006 survey, W_{A+1} is the calculated weight-at-age from the 2006 survey, M is the natural mortality, A is the survey area. All commercial hauls will be sampled by NMFS certified observers on board the vessels and all catch will be delivered to Adak Fisheries LLC. in Adak, Alaska.

Using fishing vessels to collect scientific data for management purposes is a growing trend worldwide (Dorn et al. 2002, O'Driscoll and Macaulay 2005, Stanley et al. 2000). For the foreseeable future NMFS does not have sufficient resources to survey Aleutian Island Pollock stocks, and using fishing vessels to conduct surveys may be a viable alternative. Hence, this EFP is the next step in a more far-reaching goal of creating a cooperative system for managing fisheries within Steller sea lion critical habitat at finer temporal and spatial scales. Our long-term vision is that one or more commercial fishing vessels conducts hydroacoustic surveys in specific areas of Steller sea lion critical habitat prior to commercial fishing beginning in these areas. Data from the surveys will be relayed to NMFS personnel at the Alaska Fishery Science Center (or an agreed upon third party contractor), and NMFS

personnel (or an agreed upon third party contractor) will estimate a biomass for the specific area. These biomass estimates will then be used by the NMFS Regional Office to set a quota for the area surveyed.

Implied within our primary objective are the following sub-objectives:

- Collect calibrated hydroacoustic data to determine pollock stock distribution and movement within the study area before and after the commercial fishery.
- Collect calibrated hydroacoustic data to estimate pollock biomass.
- Collect fin clips to complement and enhance ongoing genetic analyses of pollock stock structure (i.e., for comparison with other stocks).

Note that this EFP is designed to be a cooperative study with fishing vessels collecting the data and all data analysis being performed by NMFS or other researchers.

4. Technical Details

Harvest Amounts

A maximum $AR = \left[\sum (N_A W_{A+1})\right]\left(\frac{A_{07}}{A_{06}}\right)(1-M)(0.75M)$ of groundfish will be harvested under this EFP, removals are not to exceed 1000t from any two adjacent 1 degree longitude blocks. N_A is the numbers at age from the final 2006 survey, W_{A+1} is the calculated weight-at-age from the 2006 survey, M is the natural mortality, A is the survey area.

Commercial and survey trawl tows under the EFP may be conducted inside Steller Sea Lion Critical Habitat, however commercial trawl tows will not be conducted within 3NM of designated Sea Lion haulout or rookery protected areas.

Beyond incidental catch normally associated with the pelagic pollock fishery in the Aleutian Islands, no other species will be harvested besides pollock. Any salmon bycatch will be accounted against the Prohibited Species Catch cap for the Aleutian Island Pollock fishery. Any incidental catch of non-pollock species will be accounted against the Optimum Yield. All commercial catch will be retained for secondary sampling at the processing plant.

Timing

Phase one of the experiment will be conducted during the month of February during the Pacific cod (*Gadus macrocephalus*) fishery, and will consist of the Sonar self-noise tests and opportunistic collection of hydroacoustic data. The first survey will commence upon the closure of the catcher vessel cod trawl fishery (expected to occur in late February) and will take 5-9 days. The commercial fishery will open at the completion of the first survey and inter-ship comparison. The duration of the fishery will depend on the number of participants, but is not expected to take more than two weeks. Following the fishery a second acoustic survey will be conducted taking an additional 5-9 days. The study should be concluded by 7 April 2007.

Study Site

The study area is the region between 173°W longitude to 178°W longitude on the north side of the Aleutian Island archipelago and will be divided into five one-degree pollock fishing areas (PFA). The area lies between Seguam Island in the east and the Delaroff Islands in the west and is considered to encompass the possible fishing range of catcher vessels delivering pollock to Adak Island.

Vessel and Gear

The vessels will be selected from trawl catcher vessels that participate in the AI cod fishery delivering to Adak during the 2007 cod season. The vessels will be equipped with Simrad ES60 echosounders with 38kHz split beam transducers, be equipped for pelagic pollock fishing, and be on the NMFS approved list of vessels eligible to fish the Aleut Corporation pollock allocation. The vessel will have accommodations for a NMFS scientist or survey technician, and provide a sheltered work area for sampling.

The echosounders will be sphere calibrated by NMFS staff prior to and after the formal surveys in Scabbard Bay of Adak Island.

Fishing gear will be pelagic Pollock trawls, appropriate to the vessel's horsepower equipped with 3/8" knotless net liners.

Experimental Design

See attached Cruise Plan.

Public Information

All data from this experimental fishery will be made available to the public, including the catch and position data.

5. Observers

A NMFS staff scientist will be onboard one of the survey vessels during the survey periods. All commercial fishing operations will be observed by a NMFS certified observer with prior experience onboard catcher vessel trawlers. An acoustic technician and NMFS certified observer will direct survey and sampling onboard the second survey vessel. The acoustics technician will be approved by the NMFS lead scientist, the technician will have experience conducting and processing echo-integration trawl surveys using Simrad EX echosounders.

6. Principal and coordinating parties

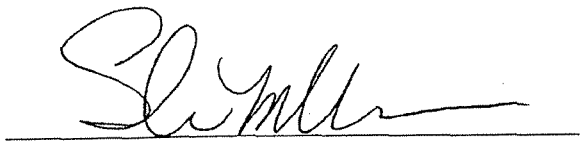
The principal and coordinating parties are the following:

- Aleut Enterprise Corporation – Sandra Moller
- Catcher vessel - managers and captains (to be determined)
- NMFS AFSC Scientific Staff – Steve Barbeaux

7. Vessel Information

The following vessel information will be determined once the vessels are selected.
Vessel Name.
Vessel Owner.
Vessel Skipper.
USCG Documentation Number.
Home Port.
Vessel Length.
Net Tonnage.
Gross Tonnage.

8. Applicant Signature



Sandra Moller, AEC

9. Additional Information

See the EA and Biological Opinion for 2006 AICASS EFP, see also the report on the 2006 EFP.

10. References

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